

## CLAIMS

1           1.       A method for caching rasterized image data, the method comprising of:  
2           receiving image data;  
3           searching for rasterized image data that corresponds to the image data;  
4           rasterizing the image data to form rasterized information, if the rasterized  
5           image data corresponding to the image data is not found during searching; and  
6           storing the rasterized information.

1           2.       The method of claim 1, further comprising of:  
2           generating a catalog code, wherein the catalog code is defined by and assigned  
3           to the image data.

1           3.       The method of claim 2, wherein searching further comprises:  
2           searching in a data structure, wherein the data structure is configured to  
3           include a data entry with the rasterized image data having the same catalog code as the  
4           image data, wherein the result of a successful search produces a file name and file  
5           location of the rasterized image data.

1           4.       The method of claim 3, further comprising of:  
2           retrieving the rasterized image data from a non-volatile memory element, from  
3           the file name and file location of the rasterized image data produced by the search.

1           5.       The method of claim 3, further comprising:  
2           generating a file name and file location for the rasterized information, wherein  
3           the file name is defined by the catalog code.

1           6.       The method of claim 5, wherein storing the rasterized information  
2           comprises:  
3           writing the rasterized information to a file location with a generated file name  
4           in a non-volatile memory element; and  
5           adding the data entry corresponding to the rasterized information to the data  
6           structure.

1           7.       The method of claim 3, wherein the data structure is stored in a random  
2           access memory (RAM) element.

1           8.       The method of claim 3, further comprising:  
2           providing a device housing the data structure;  
3           backing up the data structure to a non-volatile memory element upon proper  
4           shutdown of the device,  
5           retrieving the data structure backed up from the non-volatile memory element  
6           upon start-up after a proper shutdown; and  
7           rebuilding the data structure from the non-volatile memory element upon start-  
8           up after an improper shutdown.

1           9.       The method of claim 1, further comprising:  
2           incrementing a cache hit counter upon successfully finding the rasterized  
3           image data corresponding to the image data.

1           10.      The method of claim 1, further comprising:  
2           rendering the rasterized image data, if the rasterized image data corresponding  
3           to the image data is found; and  
4           rendering the rasterized information, if the rasterized image data  
5           corresponding to the image data is not found.

1           11.      An image data caching system comprising:  
2           first programmable logic configured to search for rasterized image data  
3           corresponding to image data;  
4           a raster image processor configured to rasterize the image data into rasterized  
5           information, if the rasterized image data corresponding to the image data is not found;  
6           and  
7           second programmable logic configured to store the rasterized information.

1           12.      The system of claim 11, further comprising:  
2           third programmable logic configured to generate a catalog code defined by and  
3           assigned to the image data.

1           13.     The system of claim 12, wherein the first programmable logic is further  
2     configured to search a data structure, wherein the data structure is configured to  
3     include a data entry with the rasterized image data having the same catalog code as the  
4     image data, wherein the result of a successful search produces a file name and file  
5     location of the rasterized image data.

1           14.     The system of claim 13, further comprising:  
2             a non-volatile memory element configured to store the rasterized image data;  
3     and  
4             fourth programmable logic configured to retrieve the rasterized image data  
5     from the non-volatile memory from the file name and file location of the rasterized  
6     image data produced by the search.

1           15.     The system of claim 14, further comprising:  
2             fifth programmable logic configured to generate a file name and file location  
3     for the rasterized information, wherein the file name is defined by the catalog code.

1           16.     The system of claim 15, wherein the second programmable logic is  
2     further configured to write the rasterized information to a file location with a  
3     generated file name to the non-volatile memory and add a new data entry  
4     corresponding to the rasterized information to the data structure.

1           17.     The system of claim 13, further comprising:  
2             a random access memory (RAM) element configured to store the data  
3     structure.

1           18.     The system of claim 13, further comprising:  
2           a non-volatile memory element configured to store a back-up of the data  
3     structure;  
4           sixth programmable logic configured to back-up, upon a proper shutdown, the  
5     data structure to the non-volatile memory element, the logic further configured to  
6     retrieve, upon start-up after a proper shutdown, the back-up of the data structure from  
7     the non-volatile memory, and to rebuild, upon a start-up after an improper shutdown,  
8     the data structure from the non-volatile memory element.

1           19.     The system of claim 11, further comprising:  
2           seventh programmable logic configured to retain a cache hit counter, the  
3     programmable logic further configured to increment the cache hit counter upon  
4     successfully finding the rasterized image data that corresponds to the image data.

1           20.     The system of claim 11, further comprising:  
2           a printing engine configured to render at least one of the rasterized image data  
3     and the rasterized information.

1           21.     A computer readable medium comprising:  
 2                 first programmable logic configured to search for rasterized image data  
 3     corresponding to image data;  
 4                 second programmable logic configured to rasterize the image data into  
 5     rasterized information, if the rasterized image data corresponding to the image data is  
 6     not found; and  
 7                 third programmable logic configured to store the rasterized information.

1           22.     The computer readable medium of claim 21, further comprising:  
 2                 fourth programmable logic configured to generate a catalog code defined by  
 3     and assigned to the image data.

1           23.     The computer readable medium of claim 22, further comprising:  
 2                 fifth programmable logic configured to generate a file name and file location  
 3     for the rasterized information, wherein the file name is defined by the catalog code.

1           24.     The computer readable medium of claim 23, further comprising:  
 2                 sixth programmable logic configured to back-up, upon a proper shutdown, a  
 3     data structure associated with the stored information.